Suicide High Risk Patient Enhancements (SHRPE 2.0)

DG*5.3*1016

Deployment, Installation, Back-Out, and Rollback Guide

Department of Veterans Affairs

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Revision History

Date	Version	Description	Author
9/9/2020	3.0	Addressed HPS findings	Shavkat Shamukhamedov
7/30/2020	2.0	List of test sites was added	Shavkat Shamukhamedov
7/8/2020	1.0	Initial version	Shavkat Shamukhamedov

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1 Introduction

This document describes the Deployment, Installation, Back-out, and Rollback Plan for new products going into the Department of Veterans Affairs (VA) Enterprise. The plan includes information about system support, issue tracking, escalation processes, and roles and responsibilities involved in all those activities. Its purpose is to provide clients, stakeholders, and support personnel with a smooth transition to the new product or software, and should be structured appropriately, to reflect particulars of these procedures at a single or at multiple locations.

Per the Veteran-focused Integrated Process (VIP) Guide, the Deployment, Installation, Back-out, and Rollback Plan is required to be completed prior to Critical Decision Point 2 (CD2).

1.1 Scope

This document describes how to deploy and install the Veterans Information Systems and Technology Architecture (VistA) Registration patch DG*5.3*1016, as well as how to back-out the product and rollback to a previous version or data set. This document is a companion to the project charter and management plan for this effort.

Modifications are needed to VistA to enhance functionality implemented by patch DG*5.3*952 and DG*5.3*977 that ensures former service members with an Other Than Honorable (OTH) administrative discharge, and their eligibility for mental health care services under OTH Military Sexual Trauma (MST) or OTH COMBAT authorities, are identifiable in the electronic health record, and VA staff can track the former service member's status.

The patch DG*5.3*1016 makes the following enhancements:

- Provides a fix to ensure 'Reevaluate Eligibility' Mailman messages sent to DGEN ELIGIBILITY ALERT group are sent only for patients registered as 'OTH' patients, per the defined business scenario.
- Provides enhancement to the 'Reevaluate Eligibility' Mailman message to be sent to DGEN ELIGIBILITY ALERT group for patients first registered as NON-OTH patients and screened positively for MST, but whose registration then changed to OTH and subsequent MST re-screening resulting in an MST STATUS (#3) value in the MST HISTORY FILE (#29.11) of "No, Screened does not report MST" or "Screened Declines to answer".
- Prevents displaying "Pending" status for OTH-EXT patients in the Patient Inquiry (OTH) [DG OTH PATIENT INQUIRY] report.
- Provides a fix to ensure that the Patient Inquiry (OTH) [DG OTH PATIENT INQUIRY] option displays the correct current Primary Eligibility.

To meet the objectives of these enhancements, the solution will:

- Add a new field AUTOMATIC CHANGE DATE field (#.5502) in the PATIENT file (#2) to capture the date/time of the automatic change of Mental Health (MH) care type.
- Make code changes in Massachusetts General Hospital Utility Multi-Programming System (MUMPS) routines.

1.2 Purpose

The purpose of this plan is to provide a single, common document that describes how, when, where, and to whom the VistA Registration patch DG*5.3*1016 will be deployed and installed, as well as how it is to be backed out and rolled back, if necessary. The plan also identifies resources, a communication plan, and a rollout schedule. Specific instructions for installation, back-out, and rollback are included in this document.

1.3 Dependencies

This patch modifies existing VistA Registration routines to provide new functionality that addresses changes for OTH MST and OTH COMBAT patients.

- DG*5.3*977 must be installed before DG*5.3*1016

1.4 Constraints

This patch should be installed in all VA VistA production sites. This patch is intended for a fully patched VistA system. Its installation will not noticeably impact the production environment.

2 Roles and Responsibilities

Table 1: Deployment, Installation, Back-out, and Rollback Roles and Responsibilities

ID	Team	Phase / Role	Tasks	Project Phase (See Schedule)
1	VA Office of Information & Technology (OI&T), VA OI&T Health Product Support & Project Management Office (PMO)	Deployment	Plan and schedule deployment (including orchestration with vendors).	Planning
2	Local Individual Veterans Administration Medical Centers (VAMC)	Deployment	Determine and document the roles and responsibilities of those involved in the deployment.	Planning
3	Field Testing (Initial Operating Capability – (IOC)), Health Product Support Testing & VIP Release Agent Approval	Deployment	Test for operational readiness.	Testing
4	Health Product Support and Field Operations	Deployment	Execute deployment.	Deployment
5	VAMCs	Installation	Plan and schedule installation.	Deployment
6	VIP Release Agent	Installation	Obtain authority to operate and that certificate authority security documentation is in place.	Deployment
7	N/A for this patch as we are using only the existing VistA system	Installation	Validate through facility Point of Contact (POC) to ensure that Information Technology (IT) equipment has been accepted using asset inventory processes.	Deployment
8	The VA's SHRPE team	Installations	Coordinate knowledge transfer with the team responsible for user training.	Deployment
9	VIP release Agent, Health Product Support & the development team	Back-out	Confirm availability of back-out instructions and back-out strategy (what are the criteria that trigger a back-out).	Deployment
10	SHRPE Team	Post-Deployment	Hardware, Software, and System Support.	Warranty

3 Deployment

The deployment is planned as a national rollout. This section provides the schedule and milestones for the deployment.

3.1 Timeline

The duration of deployment and installation is 30 days. A detailed schedule will be provided during the build.

3.2 Site Readiness Assessment

This section discusses the locations that will receive the DG*5.3*1016 patch deployment.

3.2.1 Deployment Topology (Targeted Architecture)

The VistA Registration patch DG*5.3*1016 should be installed in all VA VistA production sites.

3.2.2 Site Information (Locations, Deployment Recipients)

The test sites for IOC testing are:

- Palo Alto VA Health Care System (HCS) (640)
- North Florida/South Georgia VA HCS (573)
- Omaha VAMC (636)

Upon national release, all VAMCs are expected to install this patch prior to or on the compliance date. The software will be distributed in FORUM.

3.2.3 Site Preparation

No site-specific preparations are needed for this patch. The VA sites should follow the standard procedure they are using now for installation of VistA patches (Table 2).

Table 2: Site Preparation

Site/Other	Problem/Change Needed	Features to Adapt/Modify to New Product	Actions/Steps	Owner
N/A	N/A	N/A	N/A	N/A

3.3 Resources

There are no additional resources required for installation of the patch.

3.3.1 Facility Specifics

There are no facility-specific features (Table 3) required for deployment of this patch.

Table 3: Facility Specific Features

Site	Space/Room	Features Needed	Other
N/A	N/A	N/A	N/A

3.3.2 Hardware

There are no special requirements regarding new or existing hardware capability. Existing hardware resources will not be impacted by the changes in this project.

Table 4 describes hardware specifications required at each site prior to deployment.

Table 4: Hardware Specifications

Required Hardware	Model	Version	Configuration	Manufacturer	Other
Existing VistA system	N/A	N/A	N/A	N/A	N/A

3.3.3 Software

Table 5 describes the software specifications required at each site prior to deployment.

Table 5: Software Specifications

Required Software	Make	Version	Configuration	Manufacturer	Other
Fully patched Registration package within VistA	N/A	5.3	N/A	N/A	N/A
DG*5.3*977	N/A	Nationally released version	N/A	N/A	N/A

Please see Table 1: Deployment, Installation, Back-out, and Rollback Roles and Responsibilities for details about who is responsible for preparing the site to meet these software specifications.

3.3.4 Communications

The sites that are participating in field testing IOC will use the "Patch Tracking" message in Outlook to communicate with the SHRPE team, the developers, and product support personnel.

3.3.4.1 Deployment/Installation/Back-Out Checklist

The Release Management team will deploy the patch DG*5.3*1016, which is tracked nationally for all VAMCs in the National Patch Module (NPM) in FORUM. FORUM automatically tracks the patches as they are installed in the different VAMC production systems. One can run a report in FORUM to identify when the patch was installed in the VistA production at each site. A report can also be run to identify which sites have not currently installed the patch in their VistA production system. Therefore, this information does not need to be manually tracked in Table 6.

Table 6: Deployment/Installation/Back-Out Checklist

Activity	Day	Time	Individual who completed task
Deploy	N/A	N/A	N/A
Install	N/A	N/A	N/A
Back-Out	N/A	N/A	N/A

4 Installation

4.1 Pre-Installation and System Requirements

DG*5.3*1016, a patch to the existing VistA Registration 5.3 package, is installable on a fully patched MUMPS VistA system and operates on top of the VistA environment provided by the VistA infrastructure packages. The latter provides utilities that communicate with the underlying operating system and hardware, thereby providing Registration independence from variations in hardware and operating system.

4.2 Platform Installation and Preparation

Refer to the DG*5.3*1016 Patch Description on the NPM in FORUM for the detailed installation instructions. These instructions would include any pre-installation steps, if applicable.

4.3 Download and Extract Files

Refer to the DG*5.3*1016 documentation on the NPM to find related documentation that can be downloaded. DG*5.3*1016 will be transmitted via a PackMan message and can be pulled from the NPM. It is not a host file, and therefore does not need to be downloaded separately.

4.4 Database Creation

The patch is applied to an existing MUMPS VistA database.

4.5 Installation Scripts

Refer to the DG*5.3*1016 Patch Description in the NPM for installation instructions.

4.6 Cron Scripts

No Cron scripts are needed for the DG*5.3*1016 installation.

4.7 Access Requirements and Skills Needed for the Installation

Access to the National VA Network, as well as the local network of each site to receive DG patches, is required to perform the installation, as well as authority to install patches.

Knowledge of, and experience with, the Kernel Installation and Distribution System (KIDS) software is required. For more information, see Section V, Kernel Installation and Distribution System, in the Kernel 8.0 & Kernel Toolkit 7.3 Systems Management Guide.

4.8 Installation Procedure

Refer to the DG*5.3*1016 Patch Description in the NPM in FORUM for detailed installation instructions.

4.9 Installation Verification Procedure

After installation, the user verifies installation results by using the “Install File Print” menu option in the “Utilities” submenu of the KIDS.

Also refer to the DG*5.3*1016 documentation on the NPM for detailed installation instructions. These instructions include any post-installation steps, if applicable.

4.10 System Configuration

No system configuration changes are required for this patch.

4.11 Database Tuning

No reconfiguration of the VistA database, memory allocations, or other resources is necessary.

5 Back-Out Procedure

Back-out pertains to a return to the last known good operational state of the software and appropriate platform settings.

NOTE: Due to the complexity of this patch (because of the data dictionary changes), it is not recommended for back-out. However, in the event that a site decides to back-out this patch, the site should contact the Enterprise Service Desk (ESD) to submit a ticket; the development team will assist with the process.

The Back-Out Procedure consists of restoring routines, and manually removing each new Data Dictionary (DD) definition component introduced by the patch.

The back-out is to be performed by persons with programmer-level access, and in conjunction with the SHRPE Team.

5.1 Back-Out Strategy

Although it is unlikely due to care in collecting, elaborating, and designing approved user stories, followed by multiple testing stages such as the Developer Unit Testing, Component Integration Testing, Software Quality Assurance (SQA) Testing, and User Acceptance Testing (UAT), a back-out decision due to major issues with this patch could occur. A decision to back out could be made during site Mirror Testing, Site Production Testing, or after National Release to the field VAMCs. The best strategy decision is dependent on the severity of the defects and the stage of testing during which the decision is made.

5.1.1 Mirror Testing or Site Production Testing

If during Mirror testing or Site Production Testing, a new version of a defect correcting test patch is produced, retested, and successfully passes development team testing, it will be resubmitted to the site for testing. If the patch produces catastrophic problems, a new version of the patch can be used to restore the build components to their pre-patch condition.

5.1.2 After National Release but During the Designated Support Period

The decision to back out a specific release needs to be made in a timely manner. Catastrophic failures are usually known early in the testing process—within the first two or three days. Sites are encouraged to perform all test scripts to ensure new code is functioning in their environment, with their data. A back-out should only be considered for critical issues or errors. The normal or an expedited, issue-focused patch process can correct other bugs.

The general strategy for SHRPE VistA functionality rollback will likely be to repair the code with another follow-on patch.

If any issues with SHRPE VistA software are discovered after it is nationally released and within the 90-day warranty period window, the SHRPE development team will research the issue and provide guidance for any immediate, possible workaround. After discussing the defect with VA and receiving their approval for the proposed resolution, the SHRPE development team will communicate guidance for the long-term solution.

The long-term solution will likely be the installation of a follow-up patch to correct the defect, a follow-up patch to remove the SHRPE updates, or a detailed set of instructions on how the software can be safely backed out of the production system.

In addition, at the time of deployment, local sites can perform the following steps:

1. At the time of system deployment, create a complete backup of the current system and store it on a separate machine.
2. Continue with application-specific system deployment steps.
    a. If the system fails during deployment, perform a system rollback using the system backup created in Step 1.
3. Perform thorough and comprehensive testing to ensure the integrity and functionality of the system is intact.
4. Perform a system backup once the system is deemed stable and ready for users and store it on a separate machine.
    a. Once users begin working on the system, regularly create system backups and store them on another machine.

If system failure occurs after users are on the system, perform a system rollback using the system backup created in Step 4a.

5.1.3 After National Release and Warranty Period

After the support period, the VistA Maintenance Program would produce the new patch, either to correct the defective components or restore the build components to their original pre-patch condition.

5.2 Back-Out Considerations

It is necessary to determine if a wholesale back-out of the patch DG*5.3*1016 is needed or if a better course of action is needed to correct through a new version of the patch (if prior to national release) or a subsequent patch aimed at specific areas modified or affected by the original patch (after national release). A wholesale back-out of the patch will still require a new version (if prior to national release) or a subsequent patch (after national release). If the back-out is post-release of patch DG*5.3*1016, this patch should be assigned the status of "Entered in Error" in Forum's NPM.

5.2.1 Load Testing

No load testing is required for patch DG*5.3*1016.

5.2.2 User Acceptance Testing

The results will be provided upon the completion of the UAT.

5.3 Back-Out Criteria

Back-out criteria includes the following: the project is canceled, the requested changes implemented by DG*5.3*1016 are no longer desired by VA OI&T, or the patch produces catastrophic problems.

5.4 Back-Out Risks

By backing out the DG*5.3*1016 patch, the local facility will not be able to provide the following SHRPE functionality implemented by the patch:

- Ensuring that 'Reevaluate Eligibility' Mailman messages sent to DGEN ELIGIBILITY ALERT group are sent only for patients registered as 'OTH' patients, per the defined business scenario.
- Enhancement to the 'Reevaluate Eligibility' Mailman message to be sent to DGEN ELIGIBILITY ALERT group for patients first registered as NON-OTH patients and screened positively for MST, but whose registration then changed to OTH and subsequent MST re-screening resulting in an MST STATUS (#3) value in the MST HISTORY FILE (#29.11) of "No, Screened does not report MST" or "Screened Declines to answer".
- Preventing displaying "Pending" status for OTH-EXT patients in the Patient Inquiry (OTH) [DG OTH PATIENT INQUIRY] report.

The current changes made in the patch don't affect other applications and thus backing out the software should not pose any issues.

5.5 Authority for Back-Out

The order would come from: Portfolio Director, VA Project Manager, and Business Owner. Health Product Support will work to identify the problem and assisting with implementation. This should be done in consultation with the development team and project stakeholders.

5.6 Back-Out Procedure

The rollback plan for VistA applications is complex and not a "one size fits all" solution. The general strategy for a VistA rollback is to repair the code with a follow-up patch. The development team recommends that sites log a ticket if it is a nationally released patch. The DG*5.3*1016 patch contains the following build components:

- Routines

The pre-patch versions of routines can be restored by using backup MailMan message that should be created during installation.

NOTE: The routines can be modified by another patch that follows the DG*5.3*1016 and released after the installation of the DG*5.3*1016. In this case, restoring routines from the backup MailMan message might cause issues.

- Data Dictionaries

The following Data Dictionaries need to be restored to the previous version by the back-out patch that needs to be designed for this.

PATIENT file (#2)

5.7 Back-Out Verification Procedure

If restoring routines from back up emails is used, then successful back-out is confirmed by verification of BEFORE checksums listed in the patch description for these routines in NPM in FORUM.

If the special back-out patch is used, then successful back-out is confirmed by verification that the back-out patch was successfully installed.

6 Rollback Procedure

Rollback pertains to data. This patch doesn't change any standard data on the site. If any billing errors occurred due to the patch, then research performed by qualified DG staff will be required and corrections will need to be performed manually.

6.1 Rollback Considerations

Not applicable.

6.2 Rollback Criteria

Not applicable.

6.3 Rollback Risks

Not applicable.

6.4 Authority for Rollback

Not applicable.

6.5 Rollback Procedure

Not applicable.

6.6 Rollback Verification Procedure

Not applicable.

Appendix A: Acronyms List

Table 7: Acronyms List

Acronym	Meaning
ADT	Admission, Discharge, and Transfer
CD #2	Critical Decision Point #2
ESD	Enterprise Service Desk
DD	Data Dictionary
DGEN	dBASE IV Command (to generate messages)
DIBRG	Deployment, Installation, Back-Out, and Rollback Guide
HCS	Health Care System
IOC	Initial Operating Capability
IT	Information Technology
KIDS	Kernel Installation and Distribution System
MH	Mental Health
MST	Military Sexual Trauma
MUMPS	Massachusetts General Hospital Utility Multi-Programming System
N/A	Not Applicable
NPM	National Patch Module
OI&T	Office of Information & Technology
OTH	Other Than Honorable
OTH-EXT	OTH-Extended
PMO	Project Management Office
POC	Point of Contact
SHRPE	Suicide High Risk Patient Enhancements
SQA	Software Quality Assurance
UAT	User Acceptance Testing
VA	Department of Veterans Affairs
VAMC	Veterans Administration Medical Centers
VIP	Veteran-focused Integrated Process
VistA	Veterans Health Information Systems and Technology Architecture